Listing of Claims

A listing of the currently pending claims is provided for the Examiner's convenience. No claims have been amended.

Claim 1 (original): A loudspeaker volume range control arrangement for a telephone having a loudspeaker and a microphone, comprising means for controlling the volume range of the loudspeaker in dependence on the estimated distance between the loudspeaker and the microphone of the telephone based on the signals of the loudspeaker and microphone of the telephone.

Claim 2 (original): The loudspeaker volume range control arrangement as claimed in claim 1, wherein the telephone includes an echo cancellation system including an adaptive filter arrangement wherein the distance between the microphone and the loudspeaker is estimated based on the adaptive filter arrangement coefficients.

Claim 3 (original): The loudspeaker volume range control arrangement as claimed in claim 2, wherein the adaptive filter arrangement is an FIR filter.

Claim 4 (previously presented): The loudspeaker volume range control arrangement as claimed in claim 2 wherein the largest absolute value of the adaptive filter coefficients is determined in order to estimate the distance between the microphone and the loudspeaker.

Claim 5 (previously presented): The loudspeaker volume range control arrangement as claimed in claim 2 wherein the filter coefficients are summed or averaged in order to estimate the distance between the microphone and the loudspeaker.

Claim 6 (original): The loudspeaker volume range control arrangement as claimed in claim 5 wherein a weighted average of filter coefficients are determined in order to estimate the distance between the microphone and the loudspeaker.

Claim 7 (original): The loudspeaker volume range control arrangement as claimed in claim 1, wherein the ratio or the difference between the energies of the loudspeaker signal and the microphone signal is used to estimate distance between the loudspeaker and the microphone.

Claim 8 (previously presented): A telephone having a loudspeaker and a microphone and a loudspeaker volume range control arrangement as claimed in claim 1.

Claim 9 (original): A motor vehicle fitted with a telephone as claimed in claim 8.

Claim 10 (original): A method for controlling the loudspeaker volume range for a telephone having a loudspeaker and a microphone, comprising controlling the volume range of the loudspeaker in dependence on the estimated distance between the loudspeaker and the microphone of the telephone based on the signals of the loudspeaker and microphone of the telephone.

Claim 11 (original): The method as claimed in claim 10, for a telephone having an echo cancellation system including an adaptive filter arrangement, wherein the distance between the microphone and the loudspeaker is estimated based on the adaptive filter arrangement coefficients.

Claim 12 (original): The method as claimed in claim 11, wherein the adaptive filter arrangement is a FIR filter.

Claim 13 (previously presented): The method as claimed in claim 11, wherein the largest absolute value of the adaptive filter coefficients is determined in order to estimate the distance between the microphone and the loudspeaker.

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Claim 14 (previously presented): The method as claimed in claim 11, wherein the filter coefficients are summed or averaged in order to estimate the distance between the microphone and the loudspeaker.

Claim 15 (original): The method as claimed in claim 14, wherein a weighted average of filter coefficients are determined in order to estimate the distance between the microphone and the loudspeaker.

Claim 16 (original): The method as claimed in claim 10, wherein the ratio or the difference between the energies of the loudspeaker signal and the microphone signal is used to estimate distance between the loudspeaker and the microphone.